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Russinovich et al.(10) **Pub. No.: US 2014/0157264 A1**(43) **Pub. Date: Jun. 5, 2014**(54) **VIRTUAL MACHINE-PRESERVING HOST
UPDATES**(71) Applicant: **MICROSOFT CORPORATION**,
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G06F 9/455 (2006.01)(52) **U.S. Cl.**CPC **G06F 9/455** (2013.01)USPC **718/1**(57) **ABSTRACT**

Techniques are described for updating a host operating system on a server while maintaining virtual machines running on the server. An updated host operating system is copied to the server. The currently active host operating system freezes the virtual machines but leaves them resident in RAM. The allocations and state for each virtual machine is copied to RAM or local storage. The active host operating system is shut down. Instead of issuing a command to reboot the server after it finishes shutting down, the active host operating system transfers execution to a loader. The loader reads the kernel of the updated host operating system into RAM along with an allocation map for the virtual machines and instructions to resume the virtual machines. The loader transfers execution to the updated host operating system entry point, and the updated host operating system loads the states of the virtual machines and resumes them.

